INDEX

Page

A-amino nitrogen in frozen wheat..... 185-186
Acid—
  citric, effect on germination and growth.... 74-96
  malic, in Bartlett pears..... 482-499
  phosphoric—
    effect of sulphur on release in greensand . 241
    effect on germination and growth..... 74-96
Acid-hydrolyzable substances in Bartlett pears..... 480-499
Acidity—
  effect on persistence of *Pseudomonas citri* in soil..... 217-218
  of Bartlett pears..... 489-494
  of greensand..... 243-255
  of silage..... 174-176
  of wheat, effect of freezing..... 187-188
Acids, toleration by *Bacterium coronafaciens*..... 152-153
Aegle marmelos, susceptibility to *Pseudomonas citri*..... 341-342, 345
Aeglinae, susceptibility to *Pseudomonas citri*..... 341-342
Aeglopsis Chevalieri, immunity to *Pseudomonas citri*..... 342, 345
Aerobism of *Bacterium coronafaciens*..... 157-158
Agropyron—
  caninum—
    host of *Puccinia glumarum*..... 258
    on northern Great Plains..... 65-72
  repens, host of *Puccinia coronata agropyri*... 258
  smithii on northern Great Plains..... 65-72
  tenerum on northern Great Plains..... 65-72
Aguingay. See *Rottboellia exaltata*.
Alang-alang grass. See *Imperata* sp.
Alcohol—
  effect on milk and fat production..... 124
  in silage..... 174-177
Alcohol-insoluble substances in Bartlett pears..... 480-499
Alkalinity, effect on persistence of *Pseudomonas citri* in soil..... 217-218
Aloes, effect on milk and fat production..... 124
Aluminum—
  oxid in greensand..... 244
  sulphate, effect on availability of potassium of greensand..... 242-256
Amid nitrogen in frozen wheat..... 185-186
Ammonia nitrogen in frozen wheat..... 185-186
Ammonia production by *Bacterium coronafaciens*..... 151
Andropogon—
  furcatus on northern Great Plains..... 66-72
  scoparius on northern Great Plains..... 65-72
  sorghum—
    host of *Sclerospora philippinensis*..... 104-122
    var. *halepense* resistance to *Sclerospora philippinensis*..... 104

Page

Anias. See *Andropogon sorghum*, var. *halepense*.
Anthony, Stephen, and Harlan, Harry V. (paper): Development of Barley Kernels in Normal and Clipped Spikes and the Limitations of Awnless and Hooded Varieties..... 431-472
Antigens, germ-free filtrates..... 513-515
Antimony, black sulphid, effect on milk and fat production..... 125-130
Aphis, corn. See *Aphis maidis*.
Aphis maidis, carrier of sugar-cane mosaic.. 133, 135
Aristida longiseta on northern Great Plains... 65-72
Arsenic, effect on milk and fat production.. 125-130
Artemisia—
  dracunculoides on northern Great Plains... 65-72
  frigida on northern Great Plains..... 65-72
  gnaphalodes on northern Great Plains..... 65-72
Artificial and Insect Transmission of Sugar-Cane Mosaic (paper)..... 131-138
Ash content of barley kernels—
  change during development..... 412-428
  from normal and clipped spikes..... 452-469
Ashby, R. C., and Malconson, A. W. (paper): Variation of Individual Pigs in Economy of Gain..... 225-234
Aster multiflorus on northern Great Plains.... 65-72
Atalantia—
  Ceylonica, susceptibility to *Pseudomonas citri*..... 343, 345, 347
  citrioides, susceptibility to *Pseudomonas citri*..... 343, 345, 347, 348
  disticha, susceptibility to *Pseudomonas citri*..... 345
  glauca. Syn. *Eremocitrus glauca*.
  Hindsii. Syn. *Fortunella Hindsii*.
Atterbergii, variety, infertile intermediate barley..... 587
Avena sativa, halo-blight..... 139-172
Awnless barley, limitations..... 431-472
Bacillus—
  avenae, causal organism of blade-blight of oats..... 167
  botulinus, separation by germ-free filtrates 513-515
  edematiens, separation by germ-free filtrates. 513
  tetanus, separation by germ-free filtrates.... 513
Bacterium coronafaciens, n. sp.—
  control..... 170-171
  cultural characters..... 148-158
  description of lesions..... 139-140
  geographical distribution..... 140
  isolation No. 36..... 154-155
  overwintering and dissemination..... 158-162
  stock halo organism..... 148-154
  yellow organism..... 155-158
Balsamocitrus Dawei, immunity to *Pseudomonas citri*..... 342, 345

V19 INDEX 20 XUM

Page

Banana Root-Borer (paper)..... 39-46
Barley kernels, development—
daily..... 393-430
in normal and clipped spikes..... 431-472
Bartlett pears, ripening and storage..... 473-500
Bacterium translucens var. *undulosum*, effect of—
formalin..... 366-379
presoak method..... 379-392
Beckmannia eruceaeformis, host of *Puccinia coronata*..... 257
Beetles—
Colorado potato. See *Leptinotarsa decemlineata*.
flea. See *Epitrix cucumeris*.
Behavior of the Citrus-Canker Organism in the Soil (paper)..... 189-206
Bicarbonate, sodium, effect on milk and fat production..... 125-130
Bigaraldin, susceptibility to *Pseudomonas citri*..... 356
Black raspberry, host of *Gymnoconia interstitialis*..... 501-507
Blackberry, host of *Gymnoconia interstitialis*..... 505-506
Blackleg filtrates, germ-free..... 513-515
Blish, M. J. (paper): Effect of Premature Freezing on Composition of Wheat..... 181-188
Blue grama. See *Bouteloua gracilis*.
Bouteloua—
curtipendula on northern Great Plains..... 65-72
gracilis on northern Great Plains..... 65-72
Brachypodium pinnatum, host of *Puccinia glumarum*..... 258
Brandes, E. W. (paper)—
Artificial and Insect Transmission of Sugar-Cane Mosaic..... 131-138
Mosaic Disease of Corn..... 517-522
Braun, Harry (paper): Presoak Method of Seed Treatment: A Means of Preventing Seed Injury Due to Chemical Disinfectants and of Increasing Germicidal Efficiency.. 363-392
Bromus mollis, host of *Puccinia glumarum*... 258
Buffalo grass. See *Bulbilis dactyloides*.
Bulbilis dactyloides on northern Great Plains.. 66-72
Calamovilfa longifolia on northern Great Plains..... 65-72
Calandra sordida. Syn. *Cosmopolites sordidus*.
Calarin, susceptibility to *Pseudomonas citri*.. 358
Calashu, susceptibility to *Pseudomonas citri*.. 358
Calcium—
carbonate, effect on availability of potassium of greensand..... 242-256
chlorid, effect on germination and growth.. 74-96
oxid in greensand..... 244
phosphate, effect on solubility of soils..... 50-51
sulphate, effect on solubility of soils..... 47-54
Caraway, effect on milk and fat production..... 125-130
Carbohydrates—
in silage..... 174-178
in wheat, effect of freezing..... 186-187
Carbon dioxid, effect of calcium sulphate on production in soil..... 51-52

Page

Carbonate, calcium, effect on availability of potassium of greensand..... 242-256
Carex—
filifolia on northern Great Plains..... 65-72
heliophila on northern Great Plains..... 65-72
Casimiroa edulis, susceptibility to *Pseudomonas citri*..... 341-346
Castor oil, effect on milk and fat production.. 124
Chaetospermum glutinosum, susceptibility to *Pseudomonas citri*..... 342, 345, 346, 348
Chaetochloa lutescens, susceptibility to sugar-cane mosaic..... 134
Chalcas exotica, susceptibility to *Pseudomonas citri*..... 341-346
Chlorid, calcium, effect on germination and growth..... 74-96
Cicitrange, susceptibility to *Pseudomonas citri*..... 353
Citradia, susceptibility to *Pseudomonas citri*.. 354
Citrandarin, susceptibility to *Pseudomonas citri*..... 354-355
Citrangarin, susceptibility to *Pseudomonas citri*..... 355
Citrange, susceptibility to *Pseudomonas citri*.. 354
Citrangedin, susceptibility to *Pseudomonas citri*..... 355
Citrangequat, susceptibility to *Pseudomonas citri*..... 356
Citranguma, susceptibility to *Pseudomonas citri*..... 356
Citric acid. See Acid, citric.
Citropsis Schweinfurthii, susceptibility to *Pseudomonas citri*..... 343, 345, 347, 348
Citrumelo, susceptibility to *Pseudomonas citri*..... 354
Citrunshu, susceptibility to *Pseudomonas citri*..... 355
Citrus-canker. See *Pseudomonas citri*.
Citrus—
aurantifolia—
infection resembling *Pseudomonas citri*. 203-204
susceptibility to *Pseudomonas citri*.... 350-361
australasica. Syn. *Microcitrus australasica*.
australis. Syn. *Microcitrus australis*.
decumana. Syn. *Citrus maxima*.
excelsa, susceptibility to *Pseudomonas citri*..... 352-361
Garrowayi. Syn. *Microcitrus Garrowayi*.
grandis—
susceptibility to *Pseudomonas citri*..... 350-361
Syn. *Citrus maxima*.
hystrix, susceptibility to *Pseudomonas citri*..... 349-361
japonica. Syn. *Fortunella japonica*.
limetta. See *Citrus aurantifolia*.
margarita. Syn. *Fortunella margarita*.
maxima, effect of inoculation with *Pseudomonas citri*..... 190-199
medica, susceptibility to *Pseudomonas citri*.. 349
mitis, susceptibility to *Pseudomonas citri*..... 351-361
nobilis—
var. *unshiu*, susceptibility to *Pseudomonas citri*..... 349-361
susceptibility to *Pseudomonas citri*.... 351-361

Citrus—Continued. Page
sinensis—
effect of inoculation with *Pseudomonas citri* 203–204
susceptibility to *Pseudomonas citri* 350–361
trifoliata—
effect of inoculation with *Pseudomonas citri* 200–202
Syn. *Poncirus trifoliata*.
Clausena lansium, susceptibility to *Pseudomonas citri* 341–346
Clemelo, susceptibility to *Pseudomonas citri* .. 357
Clonal varieties of Irish potatoes 543–573
Cogon. See *Imperata cylindracea*.
Coix—
lachryma-jobi, resistance to *Sclerospora philippinensis* 104
ma yuen, resistance to *Sclerospora philippinensis* 104
Collins, G. N., and Kempton, J. H. (paper): A Teosinte-Maize Hybrid 1–38
Colorado potato beetles. See *Leptinotarsa decemlineata*.
Comandra pallida on northern Great Plains .. 65–72
Complement-fixation test, germ-free filtrates as antigens 513–515
Composition and Density of the Native Vegetation in the Vicinity of the Northern Great Plains Field Station (paper) 63–72
Composts, manure-sulphur, effect on availability of potassium of greensand 239–256
Conidia, production in *Gibberella saubinetii* .. 235–237
Copper sulphate, prevention of injury to seeds by presoak method 363–392
Corn. See *Zea mays*.
Corn aphis. See *Aphis maidis*.
Cosmopolites sordidus—
control 45–46
description 41–44
history and distribution 39–40
hosts 40–41
life history 44–45
Crabgrass. See *Syntherisma sanguinalis*.
Daily Development of Kernels of Hannchen Barley from Flowering to Maturity at Aberdeen, Idaho (paper) 393–430
Decline of Pseudomonas citri in the Soil (paper) 207–223
Development of Barley Kernels in Normal and Clipped Spikes and the Limitations of Awnless and Hooded Varieties (paper) .. 431–472
Dewberry, host of *Gymnoconia interstitialis* .. 505–506
Dextrin and soluble starch in frozen wheat .. 187
Dickson, James G., and Johann, Helen (paper): Production of Conidia in Gibberella saubinetii 235–237
Dioxid, carbon, effect of calcium sulphate on production in soil 51–52
Dipotassium phosphate, effect on germination and growth 74–96
Downy mildew of maize. See *Sclerospora philippinensis*.
Dox, Arthur W., and Yoder, Lester (paper): Influence of Fermentation on the Starch Content of Experimental Silage 173–179
Draeculacephala molipes, failure to carry sugar-cane mosaic 134, 135
Drugs, effect on milk and fat production ... 123–130
Dry matter in kernels from normal and clipped barley spikes 452–469
Echinacea angustifolia on northern Great Plains 65–72
Effect of Calcium Sulphate on the Solubility of Soils (paper) 47–54
Effect of Drugs on Milk and Fat Production (paper) 123–130
Effect of Manure-Sulphur Composts upon the Availability of the Potassium of Greensand (paper) 239–256
Effect of Premature Freezing on Composition of Wheat (paper) 181–188
Effect of Reaction of Solution on Germination of Seeds and on Growth of Seedlings (paper) 73–96
Eleusine coracana, effect of field heterogeneity on yield 291–294
Elliott, Charlotte (paper): Halo-Blight of Oats 139–172
Elymus canadensis, host of *Puccinia montanensis* 257
Epitrix cucumeris, failure to transmit potato mosaic 329
Epsom salts, effect on milk and fat production 124
Eremocitrus glauca, susceptibility to *Pseudomonas citri* 344, 345, 347
Euchlaena—
luxurians, host of *Sclerospora philippinensis* 104–122
mexicana, hybrid with maize 1–38
Euphorbia dentata, host of *Uromyces euphorbiae* 259
Evodia—
latifolia, susceptibility to *Pseudomonas citri* 345, 346
ridleyei, susceptibility to *Pseudomonas citri* 345, 346
"False hybrids," susceptibility to *Pseudomonas citri* 359
Fat production in milk, effect of drugs 123–130
Faustrime, susceptibility to *Pseudomonas citri* 354
Faustrimon, susceptibility to *Pseudomonas citri* 354
Faustrimedin, susceptibility to *Pseudomonas citri* 354
Fennel, effect on milk and fat production .. 125–130
Fermentation, influence on the starch content of experimental silage 173–179
Feronia—
elephantum. Syn. *Feronia limonia*.
limonia, susceptibility to *Pseudomonas citri* 342, 345
Feroniinae, susceptibility to *Pseudomonas citri* 342
Feroniella lucida, susceptibility to *Pseudomonas citri* 342, 345, 347
Ferric oxid in greensand 244
Ferrous sulphate, effect on availability of potassium of greensand 242–256
Fiber, wool, influence of humidity on strength and elasticity 55–62
Filtrates, germ-free, in complement-fixation test 513–515

Page
Fixed intermediate in barley crosses..... 575-592
Flea beetles. See *Epitrix cucumeris*.
Folsom, Donald, and Schultz, E. S. (paper): Transmission of the Mosaic Disease of Irish Potatoes..... 315-338
Formalin, prevention of injury to seeds by presoak method..... 363-392
Fortunella—
crassifolia, susceptibility to *Pseudomonas citri*..... 344, 345
Hindsii, susceptibility to *Pseudomonas citri*..... 344, 345, 347, 348
japonica, susceptibility to *Pseudomonas citri*..... 344, 345, 348
margarita, susceptibility to *Pseudomonas citri*..... 344, 345, 348
Foxtail. See *Chaetochloa lutescens*.
Frederich, William J., and Peltier, George L. (paper): Relative Susceptibility to Citrus-Canker of Different Species and Hybrids of the Genus Citrus, Including the Wild Relatives..... 339-362
Freezing, effect on—
Bacterium coronafaciens..... 153
composition of wheat..... 181-188
Fulton, H. R. (paper): Decline of Pseudomonas citri in the Soil..... 207-223
Further Data on the Orange-Rusts of Rubus (paper)..... 501-512
Further Studies on the Influence of Humidity upon the Strength and Elasticity of Wool Fiber (paper)..... 55-62
Gas formation of *Bacterium coronafaciens*.. 157-158
Genetics of Rust Resistance in Crosses of Varieties of Triticum vulgare with Varieties of T. durum and T. dicoccum (paper)..... 523-542
Genetics, teosinte-maize hybrid..... 1-38
Gentian, effect on milk and fat production. 125-130
Germ-Free Filtrates as Antigens in the Complement-Fixation Test (paper)..... 513-515
Germination of—
Gymnoconia interstitialis, influence of temperature..... 502-503
seeds, effect of reaction of solution..... 73-96
wheat, effect of formalin..... 366-379
Gibberella saubinetii, production of conidia. 235-237
Ginger, effect on milk and fat production.. 125-130
Glucose in Bartlett pears..... 482-499
Glycosmis pentaphylla, immunity to *Pseudomonas citri*..... 341-346
Gochenour, William S. (paper): Germ-Free Filtrates as Antigens in the Complement-Fixation Test..... 513-515
Grama, blue. See *Bouteloua gracilis*.
Grapefruit—
infection of roots by *Pseudomonas citri* .. 221-222
See *Citrus maxima*.
Grass—
alang-alang. See *Imperata* sp.
buffalo. See *Bulbilis dactyloides*.
Greensand, effect of manure-sulphur on availability of potassium..... 239-256
Gymnoconia interstitialis—
color of spores..... 503-504
germination..... 502-503
morphology of aeciospores..... 504-507
Halo-Blight of Oats (paper)..... 139-172
Hannchen barley, daily development of kernels..... 393-430
Hardy, J. I. (paper): Further Studies on the Influence of Humidity upon the Strength and Elasticity of Wool Fiber..... 55-62
Harlan, Harry V. (paper): Daily Development of Kernels of Hannchen Barley from Flowering to Maturity at Aberdeen, Idaho..... 393-430
Harlan, Harry V., and Anthony, Stephen (paper): Development of Barley Kernels in Normal and Clipped Spikes and the Limitations of Awnless and Hooded Varieties..... 431-472
Harlan, Harry V., and Hayes, H. K. (paper): Occurrence of the Fixed Intermediate, Hordeum intermedium haxtoni, in Crosses between H. vulgare pallidum and H. distichon palmella..... 575-592
Harris, Arthur J. (paper): Practical Universality of Field Heterogeneity as a Factor Influencing Plot Yields..... 379-314
Hayes, H. K., and Harlan, Harry V. (paper): Occurrence of the Fixed Intermediate, Hordeum intermedium haxtoni, in Crosses between H. vulgare pallidum and H. distichon palmella..... 575-592
Hayes, H. K., Parker, John H., and Kurtzweil, Carl (paper): Genetics of Rust Resistance in Crosses of Varieties of Triticum vulgare with Varieties of T. durum and T. dicoccum..... 523-542
Hays, Frank A., and Thomas, Merton G. (paper): Effect of Drugs on Milk and Fat Production..... 123-130
Hesperthusa crenulata, susceptibility to *Pseudomonas citri*..... 343, 345, 347, 348
Heterogeneity in fields—
influence on yield of—
alfalfa hay..... 286-291
corn..... 296-299
hops..... 295
kherson oats..... 294
mangolds..... 284
nitrogen content of wheat..... 294-295
orchard crops..... 299-300
potatoes..... 284-286
ragi..... 291-294
rice..... 295-296
timothy hay..... 286
wheat..... 291
physical and chemical basis..... 300-311
Hooded barley, limitations..... 431-472
Hordeum—
distichon palmella—
cross with *H. vulgare pallidum*..... 575-592
zeocriton, intermediate..... 576
intermedium haxtoni, in barley crosses.... 575-592
jubatum, host of *Puccinia graminis tritici*... 270
vulgare—
host of *Puccinia glumarum*..... 258
pallidum, cross with *H. distichon palmella* 575-592
Humidity, effect on strength and elasticity of wool fiber..... 55-62

Page

Hungerford, Charles W. (paper): Rust in Seed Wheat and Its Relation to Seedling Infection 257-278
Hybrid, teosinte-maize 1-38
Hybrids, "false," susceptibility to *Pseudomonas citri* 359
Hydroxid, sodium, effect on germination and growth 74-96
Imperata—
cylindracea, resistance to *Sclerospora philippinensis* 104
sp., resistance to *Sclerospora javanica* 105
Indol production by *Bacterium coronafaciens* 151
Influence of Fermentation on the Starch Content of Experimental Silage (paper) 173-179
Insect transmission of—
corn mosaic 520-521
sugar-cane mosaic 131-138
Intermediate, fixed, in barley crosses 575-592
Investigations in the Ripening and Storage of Bartlett Pears (paper) 473-500
Irish potato. See *Solanum tuberosum*.
Johann, Helen, and Dickson, James G. (paper): Production of Conidia in Gibberella saubinetii 235-237
Juniper berries, effect on milk and fat production 125-130
Kempton, J. H., and Collins, G. N. (paper): A Teosinte-Maize Hybrid 1-38
Kernels, barley—
daily development 393-430
development in normal and clipped spikes 431-472
Koeleria cristata on northern Great Plains 65-72
Kumquat. See *Fortunella* spp.
Kunkel, L. O. (paper): Further Data on the Orange-Rusts of Rubus 501-512
Kurtzweil, Carl, et al. (paper): Genetics of Rust Resistance in Crosses of Varieties of Triticum vulgare with Varieties of T. durum and T. dicoccum 523-542
Lacinaria punctata on northern Great Plains 65-72
Lactuca sparsifolia on northern Great Plains 65-72
Lansium domesticum, susceptibility to *Pseudomonas citri* 341
Laptinotarsa decemlineata, failure to transmit potato mosaic 329
Lavanginae, susceptibility to *Pseudomonas citri* 343
Leafhopper, sharp-headed grain. See *Draeculacephala mollipes*.
Lee, H. Atherton (paper): Behavior of the Citrus Canker Organism in the Soil 189-206
Lime—
air-slaked, effect on milk and fat production 125-130
inefficacy in preventing seed injury from formalin 369-392
milk of, effect on germination of wheat 379
Lime. See *Citrus aurantifolia*.
Limelo, susceptibility to *Pseudomonas citri* 356
Limequat, susceptibility to *Pseudomonas citri* 356
Limonia glutinosa. Syn. *Chaetospermum glutinosum*.

Page

Line-Selection Work with Potatoes (paper) 543-573
"Loco weed." See *Oxytropis lamberti*.
Magnesium—
oxid in greensand 244
sulphate, effect on germination and growth 74-96
Magness, J. R. (paper): Investigations in the Ripening and Storage of Bartlett Pears 473-500
Maize—
hybrid with teosinte 1-38
See *Zea mays*.
Malcomson, A. W., and Ashby, R. C. (paper): Variation of Individual Pigs in Economy of Gain 225-234
Malic acid. See Acid, malic.
Manchuria barley, effect of removing awns 431-453
Manure-sulphur composts, effect on availability of potassium of greensand 239-256
McCall, A. G., and Smith, A. M. (paper): Effect of Manure-Sulphur Composts upon the Availability of the Potassium of Greensand 239-256
McCool, M. M., and Millar, C. E. (paper): Effect of Calcium Sulphate on the Solubility of Soils 47-54
McIlvaine, T. C., and Salter, Robert M. (paper): Effect of Reaction of Solution on Germination of Seeds and on Growth of Seedlings 73-96
Mealy bug, sugar-cane. See *Pseudococcus boninensis*.
Melia azedarach, immunity to *Pseudomonas citri* 341
Melicope triphylla, susceptibility to *Pseudomonas citri* 345, 346
Microcitrus—
australasica—
susceptibility to *Pseudomonas citri* 344, 345, 347, 348
var. *sanguinea*, susceptibility to *Pseudomonas citri* 344, 345, 347
australis, susceptibility to *Pseudomonas citri* 344, 345, 347, 348
Garrowayi, susceptibility to *Pseudomonas citri* 344, 345, 347
Mildew, Philippine downy. See *Sclerospora philippinensis*.
Milk production, effect of drugs 123-130
Millar, C. E., and McCool, M. M. (paper): Effect of Calcium Sulphate on the Solubility of Soils 47-54
Moisture—
relations of *Bacterium coronafaciens* 151
soil, influence on persistence of *Pseudomonas citri* 214-217
Mosaic Disease of Corn (paper) 517-532
Mosaic—
Irish potato—
transmission by—
grafting 319-320
insects 326-332
plant juice 320-326
soil harboring 335-337
sugar-cane, artificial and insect transmission 131-138
Mozette, G. F. (paper): Banana Root-Borer 39-46

Page

Muhlenbergia cuspidata on northern Great Plains..... 65-72
Murraea exotica. Syn. *Chalcas exotica*.
Musa spp., hosts of *Cosmopolites sordidus*.... 39-46
Navel orange. See *Citrus sinensis*.
Nitrate—
potassium, effect on germination and growth..... 74-96
sodium, effect on germination and growth. 74-96
Nitrogen content—
change during development of barley kernels..... 412-428
of wheat, effect of freezing..... 183-186
of kernels from normal and clipped barley spikes..... 452-469
Nonrutaceous plants, susceptibility of *Pseudomonas citri*..... 341
Nux vomica, effect on milk and fat production..... 124
Oats. See *Avena sativa*.
Occurrence of the Fixed Intermediate, Hordeum intermedium haxtoni, in Crosses between H. vulgare pallidum and H. distichon palmella (paper)..... 575-592
Oil, castor, effect on milk and fat production.. 124
Orange, navel. See *Citrus sinensis*.
Orangelo, susceptibility to *Pseudomonas citri*. 356
Orangequat, susceptibility to *Pseudomonas citri*..... 357
Orange-rusts of Rubus. See *Gymnoconia interstitialis*.
Oxid—
aluminum, in greensand..... 244
calcium, in greensand..... 244
ferric, in greensand..... 244
magnesium, in greensand..... 244
Oxytropis lamberti, on northern Great Plains.. 65-72
Panicum dichotomiflorum, susceptibility to sugar-cane mosaic..... 134
Paramignya longipedunculata, susceptibility to *Pseudomonas citri*..... 345
Parker, John H., et al. (paper): Genetics of Rust Resistance in Crosses of Varieties of Triticum vulgare with Varieties of T. durum and T dicoccum..... 523-542
Pears, Bartlett, ripening and storage..... 473-500
Peltier, George L., and Frederich, William J. (paper): Relative Susceptibility to Citrus Canker of Different Species and Hybrids of the Genus Citrus, Including the Wild Relatives..... 339-362
Pentoxid, phosphorus, in greensand..... 244
Peronospora maydis. Syn. *Sclerospora javanica*.
Petalostemon—
candidum on northern Great Plains..... 65-72
purpureum on northern Great Plains..... 65-72
Philippine Downy Mildew of Maize (paper). 97-122
Phosphate—
calcium, effect on solubility of soils..... 50-51
dipotassium, effect on germination and growth..... 74-96
Phosphoric acid. See Acid, phosphoric.
Phosphorus pentoxid in greensand..... 244
Physostigmine—
Page
effect on milk and fat production..... 124
sulphate, effect on milk and fat production..... 125-130
Pigs, variation in economy of gain..... 225-234
Pilocarpine, effect on milk and fat production 124
Pitutarian, effect on milk and fat production. 124
Polygala alba on northern Great Plains..... 65-72
Poncirus trifoliata, susceptibility to *Pseudomonas citri*..... 343, 345, 347, 348
Potassium—
effect of manure-sulphur composts on availability in greensand..... 239-256
nitrate, effect on germination and growth. 74-96
sulphate, effect on germination and growth. 74-96
Potato, Irish. See *Solanum tuberosum*.
Practical Universality of Field Heterogeneity as a Factor Influencing Plot Yields (paper)..... 279-314
Presoak Method of Seed Treatment: A Means of Preventing Seed Injury Due to Chemical Disinfectants and of Increasing Germicidal Efficiency (paper)..... 363-392
Production of Conidia in Gibberella saubinetii (paper)..... 235-237
Pseudococcus boninensis, failure to carry sugar-cane mosaic..... 136
Pseudomonas—
avenae, causal organism of bladeblight of oats..... 167
citri—
behavior in soil..... 189-206
decline in the soil..... 207-223
relative susceptibility of species of Citrus..... 339-362
Psoralea argophylla on northern Great Plains. 65-72
Puccinia—
coronata—
agropyri, pathogenic on *Agropyron repens*. 258
pathogenic on oats..... 257, 265
glumarum—
on caryopses of Gramineae..... 258, 265
resistance of wheats..... 526
graminis—
in Australia..... 257
resistance of wheat crosses..... 523-542
tritici—
effect on germination..... 263
effect on growth of seedlings..... 263-275
parasitic on *Hordeum jubatum*..... 270
resistance of wheat crosses..... 524-542
malvacearum, pathogenic on hollyhock seeds..... 259
montanensis, pathogenic on *Elymus canadensis*..... 257
simplex, pathogenic on barley kernels..... 258
triticina, parasitic on wheat..... 265
Pummelo. See *Citrus maxima*.
Ragi. See *Eleusine coracana*.
Raspberry, black, host of *Gymnoconia interstitialis*..... 501-507
Ratibida columnaris on northern Great Plains. 65-72
Relative Susceptibility to Citrus Canker of Different Species and Hybrids of the Genus Citrus, Including the Wild Relatives (paper)..... 339-362

Page

Rhizobium leguminosarum, critical soil reaction ... 85
Root-borer, banana. See *Cosmopolites sordidus*.
Rotiboellia exaltata, resistance to *Sclerospora philippinensis* ... 104
Rubus—
alleghaniensis, host of *Gymnoconia interstitialis* ... 506
americanus, host of *Gymnoconia interstitialis* ... 505-506
canadensis, host of *Gymnoconia interstitialis* ... 506
cuneifolius, host of *Gymnoconia interstitialis* ... 505-506
hispidus, host of *Gymnoconia interstitialis* ... 505-506
nigrobaccus, host of *Gymnoconia interstitialis* ... 505-506
parviflorus, host of *Gymnoconia interstitialis* ... 505-506
procumbens, host of *Gymnoconia interstitialis* ... 505-506
strigosus, host of *Gymnoconia interstitialis* ... 506
triflorus, host of *Gymnoconia interstitialis* ... 506
ursinus, host of *Gymnoconia interstitialis* ... 505-506
spp., hosts of *Gymnoconia interstitialis* ... 501-512
Rust in Seed Wheat and Its Relation to Seedling Infection (paper) ... 257-278
Rust resistance in wheat crosses ... 523-542
Rutaceous plants, susceptibility to *Pseudomonas citri* ... 341
Rye, wild. See *Elymus canadensis*.
Saccharum—
officinarum, resistance to *Sclerospora philippinensis* ... 104
spontaneum, host of *Sclerospora* sp. ... 104
Salter, Robert M., and McIlvaine, T. C. (paper): Effect of Reaction of Solution on Germination of Seeds and on Growth of Seedlings ... 73-96
Salt, common, effect on milk and fat production ... 124
Salts, epsom, effect on milk and fat production ... 124
Sarvis, J. T. (paper): Composition and Density of the Native Vegetation in the Vicinity of the Northern Great Plains Field Station. 62-72
Satsuma. See *Citrus nobilis* var. *unshiu*.
Satsumelo, susceptibility to *Pseudomonas citri* ... 357
Schultz, E. S., and Folsom, Donald (paper): Transmission of the Mosaic Disease of Irish Potatoes ... 315-338
Sclerospora—
graminicola—
dissimilarity of *Sclerospora philippinensis* ... 105
var. *andropogonis-sorghi*, classification ... 119
javanica, hosts ... 105
maydis, suspected occurrence on teosinte ... 105
philippinensis, n. sp.—
causal organism ... 105-122
hosts ... 103-105
sacchari, pathogenicity on sugar cane, maise, and teosinte ... 105
Sclerostylis Hindsii. Syn. *Fortunella Hindsii*.

Page

Seed treatment, presoak method ... 363-392
Seeds, germination, effect of reaction of solution ... 73-96
Severinia buxifolia, immunity to *Pseudomonas citri* ... 343, 345, 347
Siamelo, susceptibility to *Pseudomonas citri* ... 357
Siamor, susceptibility to *Pseudomonas citri* ... 357
Silage, influence of fermentation on starch content ... 173-179
Smith, A. M., and McCall, A. G. (paper): Effect of Manure-Sulphur Composts upon the Availability of the Potassium of Greensand ... 239-256
Sodium—
bicarbonate, effect on milk and fat production ... 125-130
hydroxid, effect on germination and growth ... 74-96
nitrate, effect on germination and growth ... 74-96
Soil—
effect of calcium sulphate on solubility ... 47-54
in vicinity of Northern Great Plains Field Station ... 63-64
Pseudomonas citri in ... 189-206, 207-223
Solanum tuberosum—
host of mosaic disease ... 315-338
line-selection work ... 543-573
Solidago pulcherrima on northern Great Plains ... 65-72
Solubility of soils, effect of calcium sulphate ... 47-54
Sorghum. See *Andropogon sorghum*.
Species, new ... 97-122, 139-172
Starch—
in experimental silage, influence of fermentation ... 173-179
in frozen wheat ... 187
in silage ... 175-178
Stemrust. See *Puccinia graminis*.
Sterility in wheat crosses ... 527-532
Stipa—
comata on northern Great Plains ... 65-72
spartea on northern Great Plains ... 65-72
viridula on northern Great Plains ... 65-72
Storage, effect on ripening of Bartlett pears. 473-500
Striperust. See *Puccinia glumarum*.
Sucrose in frozen wheat ... 187
Sugar-cane mosaic, artificial and insect transmission ... 131-138
Sugars—
in Bartlett pears ... 480-499
in frozen wheat ... 187
in silage ... 174-177
Sulphate—
aluminum, effect on availability of potassium of greensand ... 242-256
calcium, effect on solubility of soils ... 47-54
copper, prevention of injury to seeds by presoak method ... 363-392
ferrous, effect on availability of potassium of greensand ... 242-256
magnesium, effect on germination and growth ... 74-96
physotigmine, effect on milk and fat production ... 125-130
potassium, effect on germination and growth ... 74-96

V19 INDEX 20 XUM

Page

Sulphid of antimony, black, effect on milk and fat production 125–130
Sulphur, effect on milk and fat production. 125–130
Sulphur-manure composts, effect on availability of potassium of greensand 239–256
Sunlight, effect on *Bacterium coronafaciens* ... 153
Syntherisma sanguinalis, susceptibility to sugar-cane mosaic 134
Tangelo, susceptibility to *Pseudomonas citri*. 357
Temperature—
  influence on—
    dry weight of Bartlett pears in storage. 494–495
    germination of *Gymnoconia interstitialis*. 502–503
  relation to—
    Bacterium coronafaciens 151
    rust infection 269–270
  soil, effect on persistence of *Pseudomonas citri* 213–214
Teosinte-Maize Hybrid, A (paper) 1–38
Teosinte. See *Euchlaena*—
  luxurians.
  mexicana.
Tetranychus binaculatus, transmission of sugar-cane mosaic 133
Thomas, Merton G., and Hays, Frank A. (paper): Effect of Drugs on Milk and Fat Production 123–130
Toddalia asiatica, susceptibility to *Pseudomonas citri* 345, 346
Transmission of the Mosaic Disease of Irish Potatoes (paper) 315–338
Triphasia—
  glauca. Syn. *Eremocitrus glauca*.
  trifolia, immunity to *Pseudomonas citri* 343, 345, 347
Triticum—
  dicoccum—
    dicoccoides, discovery 525
    rust resistance in crosses with *T. vulgare* 523–542
  durum—
    crosses 524
    rust resistance in crosses with *T. vulgare* 523–542
  polonicum, crosses 524
Triticum—Continued. Page
  sativum, crosses 524
  spelta, crosses 524
  turgidum, crosses 524
  vulgare—
    host of Puccinia glumarum 258
    rust resistance in crosses 523–542
Uromyces euphorbiae, pathogenic on *Euphorbia dentata* 259
Variation of Individual Pigs in Economy of Gain (paper) 225–234
Vibrion septique, separation by germ-free filtrates 513
Vicia sparsifolia on northern Great Plains 65–72
Water—
  effect on production of carbon dioxid by calcium sulphate in soil 51–52
  in barley kernels—
    change during development of barley kernels 412–428
    from normal and clipped barley spikes. 452–469
Weed, "loco." See *Oxytropis lamberti*.
Weston, William H., jr. (paper): Philippine Downy of Mildew of Maize 97–122
Wheat, relation of rust to seedling infection. 257–278
Whipple, O. B. (paper): Line-Selection Work with Potatoes 543–573
Wild rye. See *Elymus canadensis*.
Wool fiber, influence of humidity on strength and elasticity 55–62
Xanthoxylum—
  clava-herculis, susceptibility to *Pseudomonas citri* 346
  fagara, susceptibility to *Pseudomonas citri*. 346
  rhetsa, immunity to *Pseudomonas citri* 345
  sp., immunity to *Pseudomonas citri* 341
Yoder, Lester, and Dox, Arthur W. (paper): Influence of Fermentation on the Starch Content of Experimental Silage 173–179
Zea—
  mays, host of—
    mosaic disease 517–522
    Philippine downy mildew 97–122
  ramosa, growth of branches 25

V19 INDEX

20

XUM